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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/707,885	11/08/2000	Giovanni Chiavarotti	2000 1545	1381

7590

10/29/2002

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EXAMINER

RUTHKOSKY, MARK

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 10/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/707,885

Applicant(s)

CHIAVAROTTI ET AL.

Examiner

Mark Ruthkosky

Art Unit

1745

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/357,300.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's confirmation of a phone election without traverse in Paper No. 8 is acknowledged. Claims 16-17 have been canceled in the amendment. Claims 15 and 18-20 are pending.

### ***Claim Objections***

The objection to Claim 18 because of informalities has been overcome by the applicant's amendment.

### ***Specification***

~~The objection to the abstract of the disclosure and the title of the invention has been~~  
overcome by the applicant's amendment.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15 and 18-20 stand rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al. (US 5,723,232.)

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The instant claims are to a battery comprising a negative electrode including a substrate and an impermeable or substantially impermeable conductive layer of graphite on the substrate.

Yamada et al. (US 5,723,232) teaches a carbon electrode for a non-aqueous secondary battery wherein an electrode comprises a substrate with a layer of graphite added to the substrate. For example, the material is prepared by forming a slurry including graphite and a polymeric binder (col. 6, lines 20-30). The slurry is added to both sides of a nickel substrate and the material was dried at elevated temperatures. The electrode was further heat-treated at high temperatures (see examples 1-2, 8 and comparative example 2.) This method is provided in the instant application in order to prepare the impermeable or substantially impermeable conductive layer of graphite on the substrate. As the methods are the same, the materials of the prior art reference must also inherently be impermeable or substantially impermeable.

With regard to claim 19, figure 6 shows a battery wherein the case is provided as positive and negative connectors. The electrodes include graphite. The electrodes and corresponding case elements are in contact to transfer electrical charge.

With regard to claim 20, the battery may be lithium as shown throughout the reference, and specifically in claim 8. Example 16 shows the negative electrode to be opposite positive electrodes and layered with separators in between. Figure 6 shows a battery wherein the case is provided as positive and negative connectors. The electrodes and corresponding case elements are in contact to transfer electrical charge.

As each limitation of the claims is met by the reference, the claims are anticipated.

***Response to Arguments***

Applicant's arguments filed 8/27/2002 have been fully considered but they are not persuasive. The applicant's argue that the electrode of the applied reference, which describes a layer of graphite on a substrate, does not include a layer that is impermeable or substantially impermeable. The applicant's do not provide and evidence to show that the layer of graphite on the substrate of the reference is permeable as compared to the graphite layer applied to the substrate in the instant invention.

The applicant presents arguments that the methods of forming the electrodes are different, however, does not show that the layer of the reference is permeable. In fact, the methods are similar in that both the reference and the instant application employ a metal substrate and add a slurry of graphite and binder to the surface of the substrate. The materials are then dried and heated. In the arguments, the applicant shows that the drying is done at 80-150 C and the heat-treatment is at 200-450 C. In comparative example 1, the drying is done at 60 C and the heat-treatment is at 240 C. This example anticipates the claims. In addition, the reference does teach high temperature calcinating of the materials in other examples. This treatment, as mentioned in the applicant's arguments, will provide a sintering effect which one would expect to produce a more homogeneous and bonded structure. This would lead <sup>one</sup> on of ordinary skill in the art to understand that the structure would be no pore permeable than the less heated electrode of the comparative example. In both examples, the invention is anticipated.

With regard to the applicant's arguments that the substrates are different and critical to the reference, the examiner disagrees. In both the application and the reference, the substrate may be a metal foil. Further, the reference teaches that carbon graphitization may be

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accomplished by heat-treating the material before the addition to the metal substrate (see col. 7, lines 18-29.) The use of the catalytic substrate merely simplifies the preparation of the electrode.

As such, the claims are anticipated by the reference.

### ***Conclusion***

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


### ***Examiner Correspondence***

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 703-305-0587. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:00.) If attempts to reach

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the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 703-308-2383.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

  
Patrick Ryan  
Supervisory Patent Examiner  
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